

WHAT IS CLAIMED IS:

1. In a keyboard instrument support having two legs horizontally separated from each other, two outer tubes respectively and obliquely extending out from distal ends of the two legs, two inner tubes slidably received in the two outer tubes respectively, two arms horizontally separated from each other and extending from free ends of the two inner tubes, two connecting tubes with two sliding tubes each slidably received in a corresponding one of the two connecting tubes being securely connected to outer faces of a respective one of the outer tubes and the corresponding one of the inner tubes, wherein distal ends of the two sliding tubes are securely connected to outer faces of one of the outer tubes and one of the inner tubes and each of the connecting tubes is provided with pivotal plate with an eccentric block integrally formed with the pivotal plate and selectively extendable through the outer face of the connecting tube to engage the outer face of the sliding tube so as to limit the sliding movement of the sliding tubes inside the connecting tubes, wherein the improvements comprise:

a first seat and a second seat mounted on a corresponding one of the two outer tubes and respectively composed of two plates to rotatably receive therebetween a roller with multiple bosses formed on an outer periphery of the roller to correspond to a hole adapted to be defined in each of the outer tubes and each boss being received in one of multiple adjusting holes adapted to be defined in each of the inner tubes;

a first rotation tube with a first end securely adapted to be connected to an outer face of the second seat and having an open second end to securely receive therein a second rotation tube integrally formed with two extensions, two threaded bolts integrally formed with each of the extensions and respectively extending through a corresponding one of the rollers sandwiched between the first and second seats;

1 a ratchet firmly connected to the extension of the second rotation tube and
2 selectively rotated to drive the roller in each of the first and second seats to rotate; and
3 means for selectively driving the ratchet to rotate such that the rotation of the
4 roller in the first and second seats lifts or retracts the inner tubes with respect to the outer
5 tubes and the arms are able to move simultaneously to maintain the keyboard instrument
6 placed on top of the two arms horizontal.

7 2. The keyboard instrument support as claimed in claim 1, wherein the ratchet
8 device further has a leverage pivotally connected to the first seat and having a projection
9 formed on a top face of the leverage to abut a ratchet tooth of the ratchet so as to limit the
10 rotation of the ratchet.

11 3. The keyboard instrument support as claimed in claim 2, wherein the leverage
12 has a finger extending from a bottom face of the leverage to abut a first end of a spring of
13 which a second end is securely connected to the outer face of the first seat so that the
14 spring is able to provide a resilient force to the leverage to maintain the abutment of the
15 projection to the ratchet tooth of the ratchet and thus the rotation of the ratchet is limited.

16 4. The keyboard instrument support as claimed in claim 1, wherein the driving
17 means comprises a handle and a connector sandwiched between the handle and the
18 ratchet to allow the threaded bolt to extend into the connector after extending through
19 the first and second seats, the rollers respectively received in the first and second seats
20 and the ratchet alternatively rotated beside the outer face of the first seat.

21 5. The keyboard instrument support as claimed in claim 3, wherein the driving
22 means comprises a handle and a connector sandwiched between the handle and the
23 ratchet to allow the threaded bolt to extend into the connector after extending through
24 the first and second seats, the rollers respectively received in the first and second seats

1 and the ratchet alternatively rotated beside the outer face of the first seat.

2 6. The keyboard instrument support as claimed in claim 5, wherein the
3 connector has a securing hole defined through the connector to align with a through hole
4 defined in the threaded bolt and allow a securing pin to extend through the securing hole
5 and into the through hole to secure engagement between the connector and the threaded
6 bolt.

7 7. The keyboard instrument support as claimed in claim 6, wherein the securing
8 hole has a dimension larger than a dimension of the securing pin such that the securing
9 pin is distant from a periphery defining the securing hole and the connector has a
10 threaded bore defined in the connector to threadingly receive therein the threaded bolt of
11 the second rotation tube such that when the handle is rotated in a first direction to drive
12 the connector to rotate in the same direction as that of the handle, a free end of the
13 threaded bolt at a first position is moved to a second position where the ratchet is driven
14 to rotate by the connector and the roller is rotated to lift the inner tube relative to the
15 outer tube.

16 8. The keyboard instrument support as claimed in claim 7, wherein the securing
17 pin abuts the periphery defining the securing hole when the free end of the threaded bolt
18 is moved to the second position such that the rotation of the handle is able to drive the
19 ratchet to rotate in the first direction.

20 9. The keyboard instrument support as claimed in claim 7, wherein a gap is
21 defined between the free end of the threaded bolt and a bottom face of the threaded bore
22 when the handle is rotated in a second direction opposite to the first direction to drive the
23 free end at the second position to the first position where the ratchet is released from
24 rotation and the inner tube is retracted inside the outer tube.

1 10. The keyboard instrument support as claimed in claim 8, wherein a gap is
2 defined between the free end of the threaded bolt and a bottom face of the threaded bore
3 when the handle is rotated in a second direction opposite to the first direction to drive the
4 free end at the second position to the first position where the ratchet is released from
5 rotation and the inner tube is retracted inside the outer tube.

6 11. The keyboard instrument support as claimed in claim 10, wherein the ratchet
7 has a first cup formed on an outer face of the ratchet and the connector has a second cup
8 formed on the inner face of the threaded bore to correspond to and engage with the first
9 cup when the free end of the threaded bolt is moved from the first position to the second
10 position and disengage with the first cup when the free end of the threaded bolt is moved
11 from the second position to the first position.

12 12. A keyboard instrument support comprising:
13 two Z-shaped brackets with a distance apart from each other;
14 at least one connecting tube connecting the two brackets together and having a
15 sliding tube slidably received in the connecting tube to adjust the distance between the
16 two brackets, wherein each bracket has an outer tube and an inner tube slidably received
17 in and extending out of the outer tube;

18 a first seat and a second seat mounted on a corresponding one of the two outer
19 tubes and respectively composed of two plates to rotatably receive therebetween a roller
20 with multiple bosses formed on an outer periphery of the roller to correspond to a hole
21 adapted to be defined in each of the outer tubes and each boss being received in one of
22 multiple adjusting holes defined in each of the inner tubes;

23 a first rotation tube with a first end securely adapted to be connected to an outer
24 face of one of the second seat and an open second end to slidably receive therein a

1 second rotation tube integrally formed with two extensions extending out of the first
2 rotation tube, a threaded bolt integrally formed with the extension and extending
3 through the rollers sandwiched between the first and second seats;

4 means for ratcheting elevation of the inner tubes relative to the outer tubes; and
5 means for alternatively driving the ratchet means to rotate such that the rotation
6 of the roller in the first and second seats lifts or retracts the inner tubes with respect to
7 the outer tubes and the arms are able to move simultaneously to maintain the keyboard
8 instrument placed on top of the two arms horizontal.

9 13. The keyboard instrument support as claimed in claim 12, wherein the ratchet
10 means comprises:

11 a ratchet alternatively rotated in a first direction to elevate the inner tube relative
12 to the outer tube and having multiple ratchet teeth formed on an outer periphery of the
13 ratchet;

14 a leverage pivotally connected to the outer face of the first seat and having a
15 projection formed on a top face of the leverage to correspond to and abut a
16 corresponding one of the ratcheting teeth to limit the rotation movement of the ratchet;
17 and

18 a spring having a first end securely connected to the outer face of the first seat
19 and a second end abutted to a finger extending downward from the leverage so that the
20 leverage is able to maintain abutting the ratchet.

21 14. The keyboard instrument support as claimed in claim 12, wherein the
22 driving means comprises a handle and a connector sandwiched between the handle and
23 the ratchet to allow the threaded bolt to extend into the connector after extending
24 through the first and second seats, the rollers respectively received in the first and

1 second seats and the ratchet alternatively rotated beside the outer face of the first seat.

2 15. The keyboard instrument support as claimed in claim 14, wherein the
3 connector has a securing hole defined through the connector to align with a through hole
4 defined in the threaded bolt and allow a securing pin to extend through the securing hole
5 and into the through hole to secure engagement between the connector and the threaded
6 bolt.

7 16. The keyboard instrument support as claimed in claim 15, wherein the
8 securing hole has a dimension larger than a dimension of the securing pin such that the
9 securing pin is distant from a periphery defining the securing hole and the connector has
10 a threaded bore defined in the connector to threadingly receive therein the threaded bolt
11 of the second rotation tube such that when the handle is rotated in a first direction to
12 drive the connector to rotate in the same direction as that of the handle, a free end of the
13 threaded bolt at a first position is moved to a second position where the ratchet is driven
14 to rotate by the connector and the roller is rotated to lift the inner tube relative to the
15 outer tube.

16 17. The keyboard instrument support as claimed in claim 16, wherein the
17 securing pin abuts the periphery defining the securing hole when the free end of the
18 threaded bolt is moved to the second position such that the rotation of the handle is able
19 to drive the ratchet to rotate in the first direction.

20 18. The keyboard instrument support as claimed in claim 16, wherein a gap is
21 defined between the free end of the threaded bolt and a bottom face of the threaded bore
22 when the handle is rotated in a second direction opposite to the first direction to drive the
23 free end at the second position to the first position where the ratchet is released from
24 rotation and the inner tube is retracted inside the outer tube.

1 19. The keyboard instrument support as claimed in claim 17, wherein a gap is
2 defined between the free end of the threaded bolt and a bottom face of the threaded bore
3 when the handle is rotated in a second direction opposite to the first direction to drive the
4 free end at the second position to the first position where the ratchet is released from
5 rotation and the inner tube is retracted inside the outer tube.

6 20. The keyboard instrument support as claimed in claim 19, wherein the ratchet
7 has a first cup formed on an outer face of the ratchet and the connector has a second cup
8 formed on the inner face of the threaded bore to correspond to and engage with the first
9 cup when the free end of the threaded bolt is moved from the first position to the second
10 position and disengages with the first cup when the free end of the threaded bolt is
11 moved from the second position to the first position.